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LOOSENING THE EMOTIONS THAT BIND – MINDFULNESS AND ETHICAL DECISION MAKING

A THESIS APPROVED FOR THE
DEPARTMENT OF PSYCHOLOGY

BY

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This thesis is dedicated to my best friend and the love of my life, Jonathan. Jonathan, you had no idea what you were signing on for when we became a family or that you would also be choosing to make sacrifices and live the very hectic life of a non-traditional student. Thank you for your encouragement, the many meals you have made and keeping the house clean for me! Although there were many ups and downs, we made it through together. This thesis is also dedicated to my children, Taylor, Christopher, and Joshua and my bonus daughters Payton and Madalyn, who have only ever known me as a student and don't know there is actually a fun side to me outside of school. Finally, this is dedicated to my precious grandbabies, Jude, Anna, and Merritt, who have sacrificed time with me to allow me to chase this dream. Thank you all for your love and support while I have taken this journey. I hope I have shown you that you never have to give up on a dream when you are willing to keep working for it. I am extremely blessed to have all of you in my life. Thank you for always supporting and loving me! I love you all beyond measure!

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Abstract

Research has shown that negative emotions can influence the decision-making process and contribute to unethical behavior. It was hypothesized that mindfulness would decrease negative emotions and reduce their impact in the decision-making process compared to cognitive reappraisal, thereby resulting in less cheating on an anagram task. Participants were asked to complete ten days of emotion regulation techniques in mindfulness, cognitive reappraisal, or were given no training prior to data collection where the emotions of frustration, anger, or no emotion were elicited before engaging in the trained emotion regulation exercise. Participants completed an anagram task and self-scored and reported results via an online survey system. Results were tested with the Carbonless Anagram Method (CAM), where we found no significant difference between groups. Reasons for lack of findings and future directions are discussed.

Key words: CAM, Carbonless Anagram Method, Cheating, Emotion Regulation, Emotions, Ethical Decision-Making, Mindfulness.

Introduction

Unethical behavior has become commonplace in today's news to the extent that many are no longer shocked as yet another scandal unfolds. We see this behavior evidenced in the form of large corporate scandals, cutting corners on quality control, abuse or lying about sick days, cheating on expense accounts, and other types of fraud (Beu, Buckley, & Harvey, 2003, pg. 88.) In addition to large-scale and widely-publicized corporate scandals, there is mounting evidence that ordinary unethical behavior, small-scale unethical behavior in the execution of routine tasks, is commonplace (Ruedy & Schweitzer, 2010). Decades of research has been dedicated to exploring how and why we continue to see unethical behavior across organizations (Mitchell, Baer, Ambrose, Folger, and Palmer, 2018; Thompson, 2016; Egan, 2016). Unethical behavior has become so pervasive that many researchers have devoted their careers to understanding and explaining why it continues.

The study of this behavior and the process of making more ethical decisions is not a simple and straightforward process but is complex and multidimensional (Beu, et al., 2003). One factor that may play a critical role in perceiving ethical dilemmas and making ethical decisions is emotional experience, as emotional reactions are commonplace when dealing with ethical quandaries (Gaudine & Thorne, 2001; Mumford, Connelly, Brown, Murphy, Hill, Antes, Waples, & Devenport, 2008).

Emotional events have been described as being elicited *by* something, reactions *to* something, and are generally *about* something (Ekkekakis, 2012). A variety of processes are influenced in affectively charged situations, including scanning the

environment for information, interpreting and organizing information, and applying the information to make a decision (Thiel, Connelly, & Griffith, 2012).

Additionally, individuals are subject to quick, non-rational reactions that involve biases and emotions (Gaudine & Thorne, 2001; Haidt & Mischel, 2001). It may not be the case that situations in the workplace cause an individual to be emotionally charged, as research suggests that non-work events can spill over to impact individuals at work and employees' lives. That is, attitudes, stresses, emotions, and behaviors spill over between work and family domains (e.g., Judge, Scott, Ilies, & Zedeck, 2006; Greenhaus & Beutell, 1985).

By utilizing Gross' (1998) process model of emotion regulation (ER) to minimize the impact of emotions on the decision-making process, this study investigates the impact of frustration and anger on ethical decision-making (EDM). Also, of interest is the comparison of two ER techniques, cognitive reappraisal and mindfulness, where mindfulness may act at the attention deployment point of Gross' ER model by effectively diminishing anger and frustration (Gross, 1998). This study proposes that unethical behavior will happen less frequently in emotion groups that engage in mindfulness training.

Emotions and Decision Making

Emotions play a complex role in how individuals perceive a variety of situational issues as well as behaviors that may follow. They are important because they not only make us feel, they also incline us to act (Frijda, 1986). Much of the difference between discrete emotions is a function of the appraisals underlying the emotional experience (Johnson, 2015). They have been defined as response tendencies that are

short-lived and involve changes in the behavioral, experiential, autonomic, and neuroendocrine systems (Lang, 1995) and arise when something important to us is at stake (Gross, 2002). Emotions can be positive (e.g., happy, joyful) or negative (e.g., angry, sad) in valence and are made complicated as they cannot be consistently judged as good or bad. Emotional reactions are highly contextualized and depending on the situation, can compel an individual to behave inconsistently. For example, both happiness and anger have been found to focus people's attention outward, alerting them to an environment that may indicate an ethical dilemma (Connelly, Helton-Fauth, & Mumford, 2004). Further, anger, a negative emotion has been compelled individuals to act as a positive and redressing force in response to injustices and wrongdoings (Dubreuil, 2015; Lindenbaum & Geddes, 2016; Baumard, André, & Sperber, 2013).

The complexity of emotions and decision-making can be further seen as both happiness and anger have been linked with unethical decision making as both emotions cause the decision maker to process less decision-relevant information, resulting in negative outcomes for social judgment tasks and complex decisions (Bachkirov, 2015). Subsequently, there has been a significant amount of progress into the study of emotions in an attempt to understand their role in decision-making (Johnson & Tversky, 1983; Loewenstein & Lerner, 2003). Although empirical evidence appears to be mixed and researchers do not fully agree whether emotions play a positive or negative role in decision making, it is now widely accepted that they do in fact play a role in the process (Forgas, 1995; Isen, 2001; Schwarz, Bless, & Bohner, 1991).

Growing empirical research sheds light on the ways that positive and negative emotions bear influence on judgment, reasoning, and decision making in valanced

events (Blanchette & Richards, 2010; DeSteno, Petty, Wegener, Rucker, & Kruglanski, 2000). There is an interplay of automatic and controlled processing in behavior when emotions are involved, which begins with the automatic processing of information (Gyurak, Gross, & Etkin, 2011). This default mode activates knowledge structures that proceed to shape perception and action (Mauss, Bunge, & Gross, 2008). Resulting responses and actions can vary as we see manifestations of deep-rooted behavioral reactions to a particular emotion. Overlearned habits and regulatory strategies learned early in childhood, sociocultural norms, and implicit hedonic goals, engender automatic regulatory processes (e.g., Mauss, et al., 2008; Rudman, 2004). Furthermore, emotions may impact other stages of the EDM process in addition to judgment, such as one's intention as it creates a motivation to act (Eisenberg, 2000; Huebner, Dwyer, & Hauser, 2009).

Emotional responses can act as a mechanism in motivating the achievement of goals, increasing well-being, as well as leading to better decision making in certain cases (Levenson, 1994; Gross, 2007). Research from Isen and colleagues has examined positive mood and gambling behavior and found that participants in a positive mood were more risk averse than controls, especially when the odds of losing were high (Isen & Patrick, 1983; Isen & Giva, 1987). Other studies have shown detrimental outcomes resulting from negative emotions (e.g., sadness) which have been found to increase risky behavior. Research conducted by Ranghunathan and Pham (1999) presented a trade-off between risk and reward, showing risk-preference to be highest for participants induced to feel sad. Broadly speaking, emotions and decision-making effects can vary across people. Meta-analyses have shown discrete emotions' (e.g.,

anger and fear) consistency in impacting not only cognitive outcomes, but behavioral ones as well (Angie, Connelly, Waples, & Kligyte, 2011).

Discreet Emotions

Discrete emotions (e.g., anger, sadness, fear, surprise, & joy) are considered to be short-lived and intense phenomena that usually have clear cognitive content that is accessible to the person experiencing the emotion (Clore, Schwarz, & Conway, 1994). Researchers have sought to understand whether discreet emotions elicit changes in cognition, judgment, and behavior only to find conflicting results across studies (Lench, Flores, Bench, & Hinshaw, 2011). Scherer (1994) maintained that emotional intensity moderates the linkage between emotions and behavior, with strong emotions quickly releasing behaviors, but weaker emotions allowing slower and more variable behavior responses. Emotion regulation (ER) research as shown that individuals can be taught to influence which emotions they have, when they have them, and how they experience these emotions (Gross, 1998, pg. 278). Unregulated emotions can drive individuals to make unethical choices before those emotions dissipate.

Anger and Frustration. Anger is one of several discreet emotions that has been linked with unethical decision-making, Lingering (incidental) moods and emotions contribute to situational affect and even when the object of a subsequent decision bears no relation to the source of one's anger, anger still increases tendencies to overlook mitigating details (Loewenstein & Lerner, 2003). Anger prompts heuristic processing that causes certainty in the decision maker which acts as an internal cue to end deliberation of the situation, thereby causing the individual to miss key information that may lead to an ethical decision (Bachkirov, 2015). Frijda (1988) describes anger as an

emotion elicited by insults or frustrations and assigning the situational meaning as the input of frustration or offense and the output of anger, highlighting a fine line between frustration and anger.

It is important to note that although frustration is not considered an emotion per se (Lazarus, 1991), it is a lesser form of anger and will generate into anger if frustrated feelings remain unresolved (Frijda, 1988; Lewis & Bucher, 1992). As emotions intensify, they exert an ever-increasing influence on behavior and at sufficient levels of intensity can overwhelm cognitive processing and deliberative decision-making altogether (Loewenstein & Lerner, 2003), therefore frustration may lead to unethical behavior albeit not as often as anger. As unresolved frustration festers, individuals find frustration shifting to anger (Frijda, 1988), so the longer frustration persists, they more likely anger will develop, thus the more likely unethical behavior will occur (Lewis & Bucher, 1992).

Despite the fact that research shows anger to be helpful in some situations, there are many more negative outcomes resulting from unresolved anger. Angry individuals are more likely to advance their self-interest by exploiting others (Welpe, Spörrle, Grichnik, Michl, & Audretsch, 2012) and deceiving others to enhance their own outcomes (Schweitzer & Gibson, 2008). Anger creates a tunnel vision that motivates focus on the outcome that is the most explicit without exploring alternatives (Gangemi & Mancini, 2007). Individuals may unwittingly engage in behaviors that they would condemn upon further reflection or awareness, which explains how one can make a decision that not only causes harm to the self and others but is also inconsistent with conscious beliefs and preferences (Ruedy & Schweitzer, 2010). Discrepancies between

emotional response tendencies and manifest behavior prompt questions about how, why, and when individuals might try to regulate their emotional response tendencies (Gross, 1998). Prior studies have considered implications of discrete emotions based on hypothetical studies, therefore, the present study proposes to investigate frustration and anger as individuals are given the chance to engage in unethical behavior in a real-world task.

H1: Participants in the anger condition are more likely to cheat on an anagram task than those in the frustration and no emotion conditions.

Emotion Regulation

Emotion regulation refers to shaping which emotions one has, when one has them, and how one experiences or expresses these emotions (Gross, 1998). It has been shown to reduce the influence of negative outcomes of anger (Kligyte, Connelly, Thiel, & Devenport, 2013) as well as reducing biases in judgement from emotional information, thereby minimizing the impact on working memory (Lench, Bench, & Davis, 2015). Effective emotion regulation reduces the likelihood that emotions at work or spillover emotions from non-work-related situations negative influence in the EDM process (Diefendorff, Richard, & Yang, 2008).

According to Gross' (1998a) process model of ER, emotion may be regulated at five points in the emotion generative process: 1) selection of the situation, 2) modification of the situation, 3) deployment of attention, 4) change of cognitions, and 5) modulation of responses. Additionally, the ER process involves a conscious, effortful, and controlled regulation of emotion as well as unconscious, effortless and automatic regulation (Gross & Thompson 2007). However, it is not as simple as

switching a button to control negative emotions. Controlled processing requires attentional resources which are volitional and largely goal-driven but may be used to modulate automatic processes when potential outcomes conflict with valued goals (Mauss, et al., 2008). An individual's attempts to mitigate interference with goals by managing negative emotions results in a strain on working memory as attentional resources are utilized (Collins & Jackson, 2015).

This burden, or cognitive load, has been linked with ethical reasoning as it strains one's capacity to engage in responses that may lead to better decision making (Thiel, et al., 2012). In an emotional moment, this cognitive burden presents a distraction that might impair an individual's ability to be attentive to the present experience (Ruedy & Schweitzer, 2010). Therefore, an individual in an emotional moment may be under too heavy a cognitive load to engage in information gathering, forecasting, or self-reflection which are vital strategies that assist in ethical decision making are compromised (Mumford, et al., 2008).

Effective emotion regulation can effectively lessen intense emotions which may lead to better behavioral responses (Lord & Harvey, 2002, pg. 129-130), thus compelling researchers to continue to study ways to lessen the impact of emotions, such as anger, by regulating the emotions they have, when they are experienced, and how they are experienced and expressed (Gross, 1998). Considerable theoretical and empirical work has established a number of strategies individuals are able to use to regulate, or alter, the type, intensity, and/or duration of their emotions (Thiel, et al., 2012; Opitz, Cavanaugh, & Urry, 2015, pg. 455; Johnson, 2015). While the focus of this study is regulating negative emotions, it is important to note that not all emotions

need to be regulated all the time (Gross, 1998). However, it is vital to reduce the impact of emotions that yield negative consequences and create a context ripe for unethical behavior (Mitchell, et. al., 2018; pg. 64). Once response tendencies to negative emotions arise, there are a variety of ways to modulate them (Gross & John, 2003), some showing more success than others, therefore it is vital that research is conducted to investigate ways to mitigate the negative impact of emotional responses in decision making.

Cognitive Reappraisal

Many studies have been developed and conducted to determine the best strategies to minimize the deleterious effects of emotions in decision making, finding benefits in appropriately utilizing techniques such as cognitive reappraisal (CR) and distraction (Kligyte, 2008). CR is a form of antecedent focused ER, which involves assessing an event from different angles and perspectives and cognitively construing a potentially emotion-eliciting situation in a way that changes its emotional impact (Gross, 1998; Gross & John, 2003). Previous research has shown CR to decrease expressions of negative emotion compared to other types of ER (Gross & Levenson, 1993). Reappraisal is helpful as it allows an individual to accurately attribute incidental anger to its correct source and better recognize circumstances and consider potential consequences (Gross, 1998) and has been found to dampen the negative effects of anger on EDM (Kligyte, et al., 2013).

CR may not reduce the experience of anger, but the process may help individuals develop more successful methods for responding to the situation with more appropriate responses as pertains to the fourth point in the emotion generative process

(Johnson, 2015; Gross, 1998). Emotion regulation may be particularly important in ethical situations (Thiel, Bagdasarov, Harkrider, Johnson, & Mumford, 2012) and CR can be particularly influential in EDM situations, which evoke a cognitive load due to their complexity (Martin, Bagdasarov, & Connelly, 2015). However, components comprising emotions may operate too fast to be directly regulated by relatively slow conscious processes (Lord & Harvey, 2002), rendering CR ineffective for changing cognitive or behavioral reactions (Johnson, 2015), therefore we must continue to look for alternative methods of regulation.

Mindfulness

One area that shows promising research in regulating emotions is the study of mindfulness. Research conducted by Hölzel, Lazar, Gard, Schuman-Olivier, Vago, & Ott (2011) found mindfulness to be related to increases in nonreactivity to inner experiences as well as increases in positive reappraisal in emotional events. There is little empirical work in mindfulness and thus multiple research offers multiple definitions for the construct. However, for the purposes of this paper, we will define it as the receptive attention to and awareness of present events and experience (Brown, Ryan, & Creswell, 2007). The goal of mindfulness is to let emotions and events come, accept them as they are, and let them pass without ruminating on them (Hyland, Lee, & Mills, 2015).

As previously discussed, there are a number of ER strategies have been heavily studied, however, very little if any research has been devoted to the study of mindfulness in relationship to regulating emotions in the EDM process. The accepting and nonreactive stance toward one's experiences reduces the intensity and frequency of

negative affective states (e.g. Roemer, Borkovec, & Mineka, 1994), and has been found to be related to a number of constructs that have been linked with ethical decision making, including cognitive load, self-regulation, and moral attentiveness (Ruedy & Schweitzer, 2010). The potential benefit of mindfulness is that it does not regulate emotions through the use of effortful or strategic ER strategies and it reduces the automaticity with which one reacts in emotional situations, thus requiring less cognitive effort (Good, Lyddy, Glomb, Bono, Brown, Duffy, Baer, Brewer, & Lazar, 2016).

Davidson, and Kasniak (2015) found that mindfulness not only promoted better cognitive functioning and flexibility, but that individuals high in mindfulness are less angry and hostile. Additionally, individuals who practice mindfulness find awareness of thoughts and feelings as they are arising, rather than after they are already acted upon (Shapiro, Carlson, Astin, & Freedman, 2006), furthermore, the effects of mindfulness have been shown to be enduring and wide-reaching (Hyland, et al., 2015).

Research has shown that a specifically adopted, brief, voluntary mind-body skills workshop is feasible, acceptable, and effective for reducing emotions, increasing mindfulness, and acting with awareness (Greeson, Toohey, & Pearce, 2015; Mellor, Ingram, Van Huizen, Arnold, & Harding, 2016), and have seen results in as few as four hours of mindfulness training over a four-week period. Mindfulness, thereby, is potentially an ideal ER technique in the decision-making process as it bears the aforementioned benefit of lowered anger and hostility, as well as the ability to separate from negative emotions, thus mitigating their impact on behavior. The present study seeks to extend the emotions and ethical decision-making research in the application of a ten-day training in mindfulness, expecting to find reduced negative emotions and

cheating behavior. This effort compares CR, a well-studied and beneficial method for emotion regulation (Kligyte, et al., 2013) against the less studied technique of mindfulness, which has been shown to be a successful ER technique (Peters, Smart, Eisenlohr-Moul, Geiger, Smith, & Baer, 2015). That being stated, engaging in mindfulness offers the potential of reducing the likelihood of negative emotions that threaten to produce a response tendency leading to unethical behavior and also the potential of needing ER strategies in general.

H2: Participants in Mindfulness training are less likely to cheat compared to CR and no ER conditions.

H3: Participants in the frustration condition that engage in Mindfulness training are less likely to cheat compared to CR and no ER conditions.

H4: Participants in the anger condition that engage in Mindfulness training are less likely to cheat compared to CR and no ER conditions.

Method

Sample

To investigate the effects of mindfulness training as an emotion regulation technique in the EDM process, two-hundred thirteen participants were recruited from an undergraduate introductory psychology course at a large southwestern university in the United States and completed the study for course credit. This study was advertised as a study of emotions and productivity and participants were informed that they would be entered in a drawing to win a $400 Amazon gift card if they scored greater than 65% correct on the anagram task. Data from thirty-eight participants were removed from analyses due to failure to complete final data collection (n = 34) and incomplete data (n

= 6), resulting in a final sample of one-hundred seventy-three participants. The remaining participants ranged from 18 to 30 years and on average were 19.47 years old (SD = 1.66) and was predominately female (79.7%). All participants completed the study using a combination of online data collection and pencil and paper method in a proctored setting.

General Procedure

A 2 (anger or frustration) x 3 (ER technique of cognitive reappraisal, mindfulness, or none) between-subjects design was utilized to investigate the proposed hypotheses. A control group was included which received no emotion elicitation and no emotion regulation manipulation and served as a neutral comparison group between all applied techniques. This resulted in seven total conditions to which participants were randomly assigned. Participants completed ten days of ER training before attending a one hour and fifteen-minute data collection on the eleventh day, where trained undergraduate research assistants administered an emotion elicitation exercise in either frustration or anger, followed by that condition's trained ER technique. After completing measures and engaging in exercises, participants were asked to complete the experimental task, which involved completing an anagram task, self-grading, and then reporting the score to an online survey system. Finally, participants were debriefed.

Manipulations

Emotions. Three conditions were utilized to determine the effects of emotion on cheating behavior (0 = no emotion, 1 = anger, 2 = frustration). In accordance with each randomly assigned condition, all participants except those assigned to a no emotion condition were instructed to consider for two minutes and then describe, as vividly and

in as much detail as possible, a recent event that made them feel frustrated or one that made them feel angry (See Appendices A & B). This measure was drawn from Schwarz & Clore (1983).

Emotion regulation. Three conditions (0 = no ER technique, 1 = CR, 2 = mindfulness training) were utilized to determine the effectiveness of the randomly assigned ER techniques for decreasing affect prior to the cheating task. Participants in the CR group received a daily email survey, listed in Appendix C that detailed a scenario and instructed the recipient to spend time attempting to assess the situation from various angles and perspectives. Participants in the CR group were instructed to spend fifteen minutes detailing the assessment in the response box. The second condition for ER training included participants training in mindfulness. This group received a daily email survey, listed in Appendix D, which included tasks ranging from journaling for five minutes to describing an object after spending time focusing on minute details of the object or spending time focusing on the various flavors and textures of each bite of food while eating a meal, to a fifteen-minute body-scan. The third group was given no ER training and participants assigned to this condition received an email survey every day that contained a link to an online puzzle (See Appendix E). Participants were instructed to spend fifteen minutes working the puzzle, after which time they were to upload a screenshot of the clock and the completed puzzle to the survey system.

Experimental task. This study utilized a novel method introduced by Ruedy & Schweitzer (2010), the carbonless anagram method (CAM) to measure participants unethical behavior (See Appendix F). This method has several advantages over other

methods of unethical behavior, including 1) the measure of intentional, unethical acts that cannot be misattributed to inattention or mistake, 2) the recording unethical action at the individual level in an inconspicuous manner, and 3) administration to a group in a lab session (Ruedy & Schweitzer, 2010). After completing ten days of ER training sessions, each participant attended a one hour and fifteen-minute in-person data collection. Participants were seated at individual cubicles and proceeded to complete the mindfulness measure after ten days of training. Participants then engaged in the emotion elicitation exercise an autobiographical recall, followed by a manipulation check prior to participants engaging in the assigned emotion regulation manipulation for their group. Participants were instructed to set aside all surveys and activities until needed and proceeded to complete the anagram task.

The study proctor collected each participant's stack of completed measures and inserted it into what appeared to be an empty envelope with a set of fifteen anagrams (See Appendix G) stapled to the outside. Inside the envelope was a sheet of carbon paper and another sheet of paper where pressure, a pen mark, on the top sheet would leave an identical mark, thereby recording each participant's true score.

Participants had two minutes to complete the anagrams and when they finished, they were instructed to remove the top sheet from the envelope, after which, the experimenter collected the envelopes containing their true performance. The participants kept the top sheet that reflected their original answers and proceeded to view the anagram answer key, self-score the correct number of responses, and report the number of solved anagrams. Participants were told they could keep the top sheet and

recycle it after the study. All participants were debriefed at the conclusion of data collection.

Dependent variable. The dependent variable was cheating behavior, coded for analysis as a binary variable (0 = did not cheat, 1 = cheated) and was measured in the anagram task. The anagram task captured the true performance of each participant and was compared with self-reported responses which participants recorded in online survey. The difference was calculated between the true performance and the self-reported performance, and discrepancies were noted. Reported responses that did not match the measure collected by the proctor were considered unethical responses, whereas, responses that matched the measure were considered ethical responses.

Covariates. Participants were asked to complete Ruch and Ruch's (1980) Employee Aptitude Survey (EAS) to test verbal reasoning ability and serve as a control measure for intelligence. The survey measures the ability to understand concepts framed in words, to think constructively, find commonalities among different concepts, and to manipulate ideas at an abstract level, thereby allowing it to serve as a good control measure for intelligence related to the anagram task. Participants were given three minutes to solve thirty reasoning problems. Example facts offered were "Mary is older than Jack", "David is not younger than Roger", "Jack is younger than Betty", and "Betty is not older than Roger" and a corresponding statement "Betty is not older than Mary" and participants chose from three answer options to reflect true, false, or not sure. Because internal consistency reliability measures are inappropriate for speeded tests, they were not computed (Stevens & Campion, 1999).

Brown and Ryan's (2003) mindful attention awareness scale (MAAS) is a 15-item scale and a core characteristic of dispositional mindfulness namely, open or receptive awareness of and attention to what is taking place in the present. The scale allows measurement of the acting with awareness and non-reactivity to inner experience facets of mindfulness. Participants responded to each item on a 6-point Likert-type scale (1 = Almost Always, 6 = Almost Never). Example items include "I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there" and "I could be experiencing some emotion and not be conscious of it until sometime later. Cronbach's α was .83.

Mindfulness is a trained technique, thus requiring the ability to focus and pay attention through the training process. Individuals lacking the ability to pay attention and focus are potentially unable to successfully train in mindfulness. Kessler, Adler, Ames, Demler, Faraone, Hiripi, Howes, Jin, Secnik, Spencer, Ustun, & Walters' (2005) measure for attention deficit hyperactivity disorder was used as a control measure to account for those individuals' ability to pay attention. Cronbach's α was .774.

Ten demographic items were administered to participants before the ten-day training began. Demographics included questions related to age, gender, and experience with mindfulness, as well as questions related to major, year in school, GPA, and ACT score.

Results

Manipulation Checks

An adapted version of the Positive and Negative Affect Scale (PANAS) developed by Watson, Clark, & Tellegen, (1998) was utilized after the word anger was

added. PANAS is a twenty-item self-report measure of positive and negative affect used to determine levels of negative affect experienced by participants. Participants were asked to indicate the degree to which each item applied to them on a 5-point Likert scale ranging from 1 (disagree strongly) to 7 (agree strongly). Example items include "Distressed", "Hostile", "Frustrated", and "Angry". Cronbach's α was .813.

This emotion measure was used to determine levels of frustration and anger were achieved related to each participant's assigned condition. The emotion manipulation analysis began with an assessment of the data to determine if there were any outliers. There were none found, as assessed by inspection of a boxplot for values greater than 1.5 box-lengths from the edge of the box. An independent-samples t-test was run to determine if there were differences in levels of negative affect between emotion groups. Results in Table 1 show the anger condition (M = -12.78, SD = 0.543) was higher in negative affect than the frustration condition (M = -11.74, SD = .491), with a marginally significant difference, M = 1.04, 95% CI [.283, 1.20], $t(143)$ = -1.42, p = .07, d = .052, which is to be expected between emotions defined by a slight graduation of negative affect. The frustration group was higher in negative affect than the no emotion condition (M = -10.5, SD = .459), a statistically significant difference, M = 1.24, 95% CI [-0.023, 0.879], $t(82)$ = -1.88, $p < .05$, d = .094. The emotion elicitation exercise was successful in achieving the targeted negative affect in both anger and frustration groups.

Insert Table 1 About Here

Statistical Analysis

Table 2 shows descriptive statistics and correlations for study variables of interest. The attention measure was the only variable with a significant correlation with the IVs and thus, was the only variable determined to be of interest in the model building process. Other covariates, level of engagement, the MAAS, and the intelligence measure presented non-significant relationships and were discarded from the analysis. Due to the dichotomous nature of the dependent variable, binomial logistic regression was used to examine likelihoods of cheating by emotion condition, emotion regulation condition, and the interaction of emotion by emotion regulation. Hosmer-Lemeshow (H-L) (2000) was used to test goodness-of-fit to assess model fit of the logistic model against confirmed cheating within groups. Odds ratios were then calculated for simpler interpretation.

Insert Table 2 About Here

Initial examination of the data included a chi-square test of independence related to each hypothesis. First there was emotion type and cheating behavior (see Table 3), followed by emotion regulation type and cheating behavior (see Table 4), and finally, emotion by emotion regulation type and cheating behavior (see Table 5). There was not a statistically significant association between group type and cheating behavior, $\chi^2(6) = 1.59$, $p = .954$. The association was small, Cramer's V = .039.

Insert Tables 3 through 5 About Here

Hypothesis Tests

Hypothesis 1. Hypothesis 1 stated that participants in an anger condition would be more likely to cheat than other conditions. A binomial logistic regression was performed to ascertain the effect of anger on the likelihood that participants cheat on an anagram task. We controlled for intelligence. Linearity of the continuous variables with respect to the logit of the dependent variable was assessed via the Box-Tidwell (1962) procedure, where no interactions were found to be significant. As results show in Table 6, this hypothesis was not confirmed. The logistic regression for H1 was not statistically significant, $\chi^2(2) = .225$, $p = .893$. The model explained 6.5% (Nagelkerke R^2) of the variance in cheating and correctly classified 86.7% of cheating cases. Sensitivity was 0%, specificity 100%, PPV 0%, and NPV 86.7%. Comparisons between the three emotion groups showed no statistically significant differences with both emotion groups equally likely cheat when compared to the control group.

Insert Table 6 About Here

Hypothesis 2. Hypothesis 2 stated that participants in the mindfulness emotion regulation condition would be more likely to cheat than other conditions. A binomial logistic regression was performed to ascertain the effect of mindfulness training on the likelihood that participants cheat on an anagram task. We controlled for levels of

engagement in training, intelligence, and ability to pay attention. Linearity of the continuous variables with respect to the logit of the dependent variable was assessed via the Box-Tidwell (1962) procedure, where no interactions were found to be significant. As results show in Table 7, this hypothesis was not confirmed. The logistic regression for H2 was not statistically significant, $\chi^2(2) = .216$, $p = .898$. The model explained 6.4% (Nagelkerke R^2) of the variance in cheating and correctly classified 86.1% of cheating cases. Sensitivity was 0%, specificity 100%, PPV 0%, and NPV 86.7%. Comparison between the three emotion regulation groups and the control group showed no statistically significant differences with both emotion groups equally likely cheat when compared to the control group.

Insert Table 7 About Here

Hypotheses 3 and 4. Hypotheses 3 and 4 were tested using binomial logistic regression to determine whether mindfulness leads to decreased cheating in both frustration and anger conditions. As shown in Table 8, the logistic regression neither H3 nor H4 were statistically significant, $\chi^2(6) = 1.47$, $p = .962$. None of the models were significant, although model 2 appeared to fit best out of three. The overall model explained 7.8% of the variance in cheating and correctly classified 86.7% of cases. Sensitivity was 0%, specificity 100%, PPV 0%, and NPV 13.3%. Comparison between the six groups and the control group showed no statistically significant likelihood to cheat less for mindfulness training with either frustration or anger.

Insert Table 8 About Here

Discussion

Despite increased attention and research as well as ongoing efforts to train individuals to behave in ethical ways, unethical behavior continues to be an issue. Because emotions appear to play an integral role in the decision-making process and contribute to unethical behavior, it is particularly vital to find better ways to regulate the emotional experience (Diefendorff, et al., 2008). Therefore, this study investigated the effects of a ten-day ER training routine on anger and frustration in ethical decision-making process. The emotions of anger and frustration were elicited, and ER techniques were investigated. First, mindfulness, which promotes enhanced and expanded attention and awareness in the present moment and improve individuals' ability to attend to specific aspects of a situation (e.g. beyond the narrow focus on threat) (Mennin & Fresco, 2013; Roemer, 2014), suggesting that mindfulness acts as an attention deployment in an emotional event. The second ER technique, cognitive reappraisal, which suggests emotion regulation through cognitive change as an individual reappraises the meaning of an emotionally charged situation (Gross, 1998), and third, no ER technique. The three ER conditions were used to compare cheating behavior with a control condition that was given no emotional prompt and used no emotion regulation technique where it was expected to find less cheating in conditions that utilized mindfulness. Few studies offer the opportunity for a participant to make the choice to

engage in unethical behavior or not, thus this study was interesting in that it afforded real-life insight into the emotions and decision-making process.

Overall, this study produced very little cheating within any of the conditions and results did not support the hypothesis that mindfulness should reduce emotions more than cognitive reappraisal or no ER technique. In the following sections I will briefly review the findings and proceed to discuss limitations of this study and directions for future research., however, research is clear that emotions play a very complex role in the decision-making process and outcomes rely on not only the emotion that is presented, but the individual and the situation among other aspects (Frijda, 1986; Gross, 1998; Loewenstein & Lerner, 2003), this it is expected to see negative emotions and the need for ER continuing to play a role in the decision making process.

Comparison between training conditions also showed no significant findings when controlling for covariates of interest, however, it is interesting to note that individuals scoring higher on the Ability to Pay Attention control measure were roughly 20% more likely to cheat when only looking at emotion type (See Table 6, Model 2; $\chi^2(1) = 1.16$, $p = .017$), ER type (See Table 7, Model 2; $\chi^2(1) = 1.14$, $p = .019$), and also when looking at emotion by ER type (See Table 8, Model 2; $\chi^2(1) = 1.14$, $p = .021$). This finding is interesting because it opens the door for more focused research related to disabilities like attention deficit disorder, negative emotions, and ethical decision making.

Limitations

Before discussion related to the limitations, it must be stated that Allen, Eby, Conley, Williamson, Mancini, & Mitchell (2015) conducted a broad cross-section

review of mindfulness studies that tended to produce null, mixed, or non-beneficial effects with those that tended to produce beneficial effects and found no clear pattern to explain positive outcomes. This is likely due to the scarcity of research in such a relatively new area of study or no clear definition of the construct, causing difficulty in research. Hyland et al (2015) reviewed a number of mindfulness studies and appeared to take an everything but the kitchen sink approach, including studies from work-related settings as well as health care settings. Additionally, their work reviewed studies that included self-reports of mindfulness practices. It is possible that the net was cast too broadly and did not measure effectively enough to see real differences in why some find more success in mindfulness training than others.

That being stated, the design of the study is a potential point of interest. Connolly, Stuhlmacher, & Cellar (2015) note the importance of addressing resources and constraints prior to choosing the methods and designing the training. The present effort was proposed as emotions and emotion regulation but was potentially confounded by the $400 gift card that may have acted as a goal-attainment component. Studies in goal attainment show that individuals will cheat or engage in unethical behavior in order to meet a goal (Ordonez, Scweitzer, Galinsky, & Vazerman, 2009; Mitchell, et al., 2018).

There are other reasons that may explain the lack of cheating in this study. Lack of thorough training for the study proctors is another potential explanation for the lack of significant findings. Proctors observed the study lead through one data collection and then proceeded to be observed by the study lead for a single data collection. Feedback offered by several participants indicated that proctors were somewhat uncomfortable

when running the study alone and appeared to be too careful when dealing with study materials, causing participants to be alerted to the deception. Lack of significant findings could be partially explained by this Hawthorne effect, as it is possible that participants became alerted that something abnormal was happening and changed behavior in which they would normally engage.

Finally, time spent in mindfulness training is another explanation. Previous studies showed increases in mindfulness in four-hour sessions over a four-week period (Greeson, et al., 2015), and the present effort attempted to condense that to twenty minutes per day for ten days. Furthermore, without attending in-person mindful meditation training, it is questionable whether trainees engaged in the online meditation session. Research from Hyland et al. (2015) notes that not all individuals may benefit from the practice of mindfulness, moreover, that it may even frustrate or upset some.

Conclusion and Directions for Future Studies

Despite the limitations of this study, research in mindfulness as an emotion regulation technique is still a worthwhile topic. Although it has shown to be beneficial to those that adhere to the practice, it should not be assumeed to be a one-size-fits-all intervention (Dreison, Salyers, & Sliter, 2015). Because there are so many benefits related to mindfulness training it is important for researchers to continue to investigate the components of mindfulness training that explain the many positive outcomes.

The present study investigated anger and frustration combined with the effects of mindfulness training or cognitive reappraisal in the ethical decision-making process. Results did not support the hypotheses and participants in the mindfulness condition were no less likely to cheat than those in the CR or no ER conditions. It is possible that

there were no major issues with data collection and that this is simply evidence that people don't cheat as much as we like to think they do.

Future research can address the weaknesses of this study design in several ways. First, because outcomes in this study were potentially confounded by the offering of a gift card, future studies should not offer a reward for achievement of a goal. A study design that offers an emotionally evoking event to which the participant is expected to make some kind of ethical decision is all that is needed.

Second, and a very important point would be training for study proctors. When using deception in data collection, it is vital to be sure that those running the study session are not being too careful as to raise suspicion among participants. when considering participation of daily training, mindfulness training should be conducted as an in-person training to be certain of daily undistracted engagement.

Third, the design of mindfulness training can be addressed by increasing accountability to complete all days of training. The online method of training was conducted on an honor system, with trainees journaling experiences and manually entering the amount of time that was spent on training. There should be a way to check whether or not trainees engage in training.

Finally, an important direction for research would be to further investigate individual difference factors related to successful mindfulness training related to emotion regulation, specifically personality, gender, and attentional issues. Because mindfulness in the workplace is still in its infancy, building a solid theoretical foundation will be vital for empirical research. Further investigating specific personality

or cognitive traits and their relationships with beneficial and harmful outcomes will also be of great interest for understanding how useful mindfulness can be.

Table 1

Independent Samples t-test Comparing Control and Treatment Conditions

	M	*SD*	n	95 % CI	t	*df*	*p*	*Cohen's d*
Frustration	-11.74	0.491	74	-0.023, .0879	-1.88	82	< .05	0.094
Anger	-12.78	0.543	73	0.283, 1.20	-1.42	143	.07	0.146

Note. Frustration comparison made with control group. Anger comparison made with frustration group.

Table 2

Descriptive Statistics and Correlations

Variable	*M*	*SD*	1	2	3	4	5
1. Cheated							
2. Frustration	2.11	.656	.05	(.79)			
3. Anger	2.38	.961	.07	.49**	(.79)		
4. Attention	2.86	.491	.18*	.15*	.10	(.77)	
5. MAAS	3.51	.705	-.11	-.06	-.02	-.50**	(.83)
6. EAS	21.5	7.93	.10	-.01	-.03	.10	-.02

Note. Diagonal values are internal consistencies. $N = 173$. *$p < .05$, **$p < .0001$.

Table 3

Cheating Behavior Related to Emotion Condition

	Cheated		
Group	Yes	No	Total
1. No Emotion	3 (3.46)	23 (22.54)	26
2. Frustration	10 (9.71)	63 (63.29)	73
3. Anger	10 (9.84)	64 (64.16)	74
Total	23	150	173

Table 4

Cheating Behavior Related to ER Condition

	Cheated		
Group	Yes	No	Total
1. N	9 (9.57)	63 (62.43)	72
2. CR	8 (6.91)	44 (45.09)	52
3. M	6 (6.51)	43 (42.49)	49
Total	23	150	173

Table 5

Cheating Behavior Related to Emotion by ER Condition

	Cheated		
Group	Yes	No	Total
1. CR-A	3 (3.57)	23 (23.43)	26
2. MA	4 (3.17)	20 (20.83)	24
3. N-F	3 (3.04)	20 (19.96)	23
4. N-N	3 (3.44)	23 (22.56)	26
5. M-F	2 (3.30)	23 (21.70)	25
6. CR-F	5 (3.44)	21 (22.56)	26
7. N-A	3 (3.04)	20 (19.96)	23
Total	23	150	173

Table 6
Logistic Regression Predicting Cheating by Emotion Condition

Variable	Model 1							Model 2						
	β	*SE*	*df*	*p*	OR	95% CI		β	*SE*	*df*	*p*	OR	95% CI	
						Lower	Upper						Lower	Upper
Condition			2	.995						2	.893			
Anger	-.181	.702	1	.797	.835	.211	3.30	.211	.713	1	.768	.810	.200	3.28
Frustration	.016	.481	1	.974	1.02	.396	2.61	.122	.492	1	.804	1.13	.431	2.97
Attention								1.16	.484	1	.017	3.19	1.24	8.24

Note. All comparisons made to control group.

Table 7
Logistic Regression Predicting Cheating by Emotion Regulation Condition

Variable	Model 1							Model 2						
	β	*SE*	*df*	*p*	OR	95% CI		β	*SE*	*df*	*p*	OR	95% CI	
						Lower	Upper						Lower	Upper
Condition			2	.868						2	.898			
CR	.241	.524	1	.645	1.27	.456	3.56	.244	.535	1	.648	1.28	.447	3.64
Mindfulness	-.024	.563	1	.967	.977	.324	2.94	.066	.573	1	.909	1.07	.347	3.28
Attention								1.14	.484	1	.019	3.12	1.21	8.04

Note. All comparisons made to control group.

Table 8
*Logistic Regression Predicting Cheating by Emotion * ER Condition*

Variable	Model 1							Model 2						
	β	*SE*	*df*	*p*	OR	95% CI		β	*SE*	*df*	*p*	OR	95% CI	
						Lower	Upper						Lower	Upper
Condition			6	.943						6	.962			
CR-A	.064	.868	1	.727	.967	.182	5.48	.121	.885	1	.891	1.13	.199	6.39
M-A	.427	.823	1	.603	1.53	.306	7.69	.566	.838	1	.499	1.76	.341	9.11
N-F	.140	.872	1	.873	1.15	.208	6.35	.140	.885	1	.875	1.15	.203	6.51
M-F	-.405	.959	1	.673	.667	.102	4.37	-.282	.973	1	.772	.754	.112	5.08
CR-F	.602	.790	1	.446	1.83	.388	8.59	.573	.804	1	.476	1.77	.367	8.57
N-A	.140	.872	1	.873	1.15	.208	6.35	.280	.887	1	.752	1.32	.233	7.53
Attention								1.14	.490	1	.021	3.11	1.19	8.14

Note. All comparisons made to control group.

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Appendix A: Frustration Elicitation Manipulation

Frustrated: A feeling of dissatisfaction resulting from unfulfilled needs or unresolved problems (i.e. person in class next to you smacking gum, tapping foot during test, playing on Facebook while you are trying to pay attention to professor, at work, lazy coworker keeps taking breaks while you work hard).

Appendix B: Anger Elicitation Manipulation

Angry: A strong feeling of displeasure and belligerence aroused by a wrong; wrath; ire. (i.e. boyfriend/girlfriend cheating on you or breaking up with you, you got fired from your job, friend lied to you, got a bad grade after you studied hard and someone in class cheated and got a good grade, pulling out in front of you while driving).

Appendix C: Cognitive Reappraisal Training Task

Day 1

Before you begin today's training here are some questions to ask yourself:

1. Are you in a quiet environment as you are preparing to engage in training for the next 15 minutes?
2. Are you in a stable environment that will remain free of distraction for the next 15 minutes?
3. Are you able to set aside 15 minutes to complete this training in one sitting?

For your first day of training, read the passage below and follow the directions when finished:

You have been working on a paper for your English Comp class for days and have found a lot of sources and typed out a decent outline for it. You didn't back it up to the cloud storage because you are almost out of space and you haven't had time to dig out your memory stick, so you just have it open on your desktop, ready to save when you get around to finding it. Your computer has been trying to do an update that you keep putting off and when you are busy looking through some notes, your computer screen goes blue and begins installing the updates. When it is finally finished, your document is no longer open on your desktop and is nowhere to be found. You search through all previous versions and unsaved documents throughout Word and you can't find it. So, the detailed outline is gone, and it is due in two days.

Situations such as the one just read about usually elicit a broad range of feelings. People tend to deal with these feelings in different ways. One of the ways of doing this is to reflect on the situation in several different ways.

Read the prompts below and take a few minutes to consider them. Create a return email to me that includes answers to the first three questions as well as the prompts below and the amount of time you spent on your training today.

There are a number of strategies people use to reflect and think through the situation in different ways. Please work through the following questions fully and to the best of your ability:

1. Sometimes even when bad things happen, they ultimately have positive consequences. We would like you to list some good things that could occur as a result of experiencing this negative event. In other words, what are some possible positive consequences of this negative event?
2. What are some of the lessons you could learn from this situation that would benefit you in the future?
3. In what ways could experiencing this situation help you grow as a person?
4. How might any reactions you have in this situation help you handle the situation?
5. What are some things you might think that would help you lessen the negative aspects of the situation?

Appendix D: Mindfulness Training Task

Day 1

Before you begin today's training here are some questions to ask yourself:

1. Are you in a quiet environment as you are preparing to engage in training for the next 15 minutes?
2. Are you in a stable environment that will remain free of distraction for the next 15 minutes?
3. Are you able to set aside 15 minutes to complete this training in one sitting?

For your first day of training, copy and paste the link below and follow the subsequent directions when finished.

http://palousemindfulness.com/disks/lovingkindness.mp3

Meditations, such as the one you just listened to, can elicit a broad range of feelings. Read the prompts below and take a few minutes to consider them. Create a return email to the researcher that includes your participant ID in the subject line and contains responses to the first three questions, as well as the prompts below, some observations you noticed as you were engaged in the meditation, and the amount of time you spent on your training today. Researcher email: chanda.s.sanders-1@ou.edu

1. Were you able to settle your mind and focus on the training for the full amount of time it played?
2. Did you find yourself contemplating any emotions when you were finished?

Appendix E: No ER Training Task

Day 1

Before you begin today's training here are some questions to ask yourself:

1. Are you in a quiet environment as you are preparing to engage in training for the next 15 minutes?
2. Are you in a stable environment that will remain free of distraction for the next 15 minutes?
3. Are you able to set aside 15 minutes to complete this training in one sitting?

For your first day of training, copy and paste the link at the end of this sheet and follow the subsequent directions when finished.

Before you work on the task below, here are your instructions. Copy and paste the link below into your web browser and spend 15 minutes attempting to complete it. When you have either finished the task or worked for 15 minutes take a screenshot of the task and upload it to the response option listed after these instructions.

http://thejigsawpuzzles.com/Macro/Colorful-Paper-Bags-jigsaw-puzzle

Appendix F: CAM for Measuring Unethical Behavior

Materials:

1. White carbonless copy paper: One upper carbon sheet ("coated back") and one lower carbon sheet ("coated front) for each participant. (White carbonless copy paper looks identical to regular white printer paper but has a chemical coating. When the upper carbon sheet is placed over the lower carbon sheet, pressure (e.g., a pen mark) on the upper carbon sheet makes an identical mark on the lower sheet. Carbonless copy paper can be ordered from major paper suppliers such as Xpedx).
2. Standard white printer paper for the anagram task, 1 sheet per participant.
3. One Tyvek envelop per participant.

Assembling materials for each participant:

1. Anagram Sheet (printed on front side only) stapled to outside of Tyvek envelop. On a standard white sheet of paper, we printed a list of word scramble problems (e.g., ONE TUNIC) on the front of the sheet (see Appendix G).
2. In a Tyvek envelop we placed the upper carbon sheet above the lower carbon sheet and stapled these sheets, along with the anagram sheet on the outside of envelop, to the envelop with four staples (stapled in all four corners, such that participants were unable to see any markings on the lower sheet).

Procedure:

1. Participants were seated in individual cubicles with pre-measures, which the study proctor collected and inserted into the Tyvek envelop and sealed before giving to participant. Participants were instructed that they would have 3

minutes to unscramble words and that all participants correctly unscrambling more than 65% of the anagrams would be entered into a drawing for a $400 Amazon gift card.

2. We started everyone together and called time and asked them to stop work.
3. We then asked them to detach just the top sheet from the manila folder.
4. We then collected the Tyvek envelopes and distributed answer keys and asked participants to correct their own work. We made a point of not monitoring this stage of the experiment.
5. When participants were done, they logged into an online survey where they entered their study ID and self-reported how many anagrams were completed.
6. Each participant then brought their answer key to the study proctor, went back to their seat to await debriefing.
7. The sheets in the Tyvek envelopes contain the imprint of their actual work.

We compared the number of anagrams from the hidden sheet in the envelop to the number of anagrams reported to the online survey. See Figure 1 for an example.

Appendix G: Anagram Task

1.	To carry on doing the same thing	ONE TUNIC	_____
2.	To stay where you are	A MINER	_____
3.	Moving quickly on your legs	NUN GRIN	_____
4.	The American word for footpath	WEAK LIDS	_____
5.	Cars, buses, bicycles, trucks, etc.	FIR FACT	_____
6.	Using your legs to move	LANKWIG	_____
7.	Using a chair to stay where you are	STING IT	_____
8.	Remaining in the same place	TINY SAG	_____
9.	To wind or turn in different directions	ME A NERD	_____
10.	Went off the path or got lost	REST DAY	_____
11.	One of the colors of a traffic light	BREAM	_____
12.	You walk on this, along the side of the road	FAT PHOTO	_____
13.	Used for making a popular drink	TAP TOE	_____
14.	A deed. The process of doing something	A TONIC	_____
15.	This is where you catch a train	SAT ON IT	_____
16.	You stand on this waiting for a train	TRAM FLOP	_____
17.	You pay this to travel on a bus or train	FEAR	_____
18.	To move or roam casually	WARNED	_____
19.	If the traffic is heavy, you travel at this speed	SLY OWL	_____
20.	An adjective meaning “speedy”	A DRIP	_____